WHAT IS CLAIMED IS

1. A data processing device comprising:

an authenticating means for authentication with a device to be authenticated on the basis of key data and

a key generating means for generating said key data on the basis of the data received from said authenticating means and providing the same to said authenticating means, wherein

said authenticating means provides first data and second data to said key generating means, and

said key generating means generates said key data by using only said first data in said first data and said second data received from said authenticating means.

2. A data processing device as set forth in claim 1, wherein said key generating means generates said key data unique to the device to be authenticated on the basis of the data received from said authenticating means.

3. A data processing device as set forth in claim 1, wherein:

said key generating means is provided with a function module having a first input parameter and a second input parameter and generating said key data by using only said first data entered for said first input parameter, and

said authenticating means enters said first

data for said first input parameter of said function module of said key generating means and enters said second data for said second input parameter.

4. A data processing device as set forth in claim 1, wherein said authenticating means provides identification data relating to processing to be performed after said authentication, that is, said first data and said second data received from said device to be authenticated, to said key generating means.

5. A data processing device as set forth in claim 1, wherein:

said authenticating means provides a function module for performing processing for providing unique data unique to said device to be authenticated received from said device to be authenticated, and

said key generating means calls up said function module of said authenticating means and further uses said unique data received from said function module to generate said key data.

6. A data processing device as set forth in claim 5, wherein:

said authenticating means is realized by executing an authentication program including a function defining said function module by an executing means, and

said key generating means is realized by

executing a key generation program including a function calling up said function module by said executing means.

7. A data processing device as set forth in claim 5, wherein said authenticating means provides said key generating means with said unique data read from a storage means shared between said authenticating means and said key generating means in accordance with execution of said function module when said function module is called up by said key generating means.

8. A data processing device as set forth in claim 1, wherein:

said data processing device further comprises a key holding means providing a function module for reading out master key data and holding said master key data, and

said key generating means calls up said function module of said key holding means and further uses said master key data obtained by said function module to generate said key data.

9. A data processing device as set forth in claim 8, wherein said key holding means is realized by execution of a key holding program by an executing means.

10. A data processing device as set forth in claim 9, wherein said key holding program is updated independently from programs for realizing said authenticating means and said key generating means.

11. A data processing device as set forth in claim 1, wherein said key generating means selects a key generation algorithm corresponding to a designated processing content among a plurality of different key generation algorithms defined in accordance with a plurality of processing contents to be performed after said authentication and generates said key data unique to said device to be authenticated based on said selected key generation algorithm.

12. A data processing device as set forth in claim 1, wherein said authenticating means performs authentication with said device to be authenticated on the basis of said key data and, when recognizing mutual legitimacy with said device to be authenticated, performs processing corresponding to said key data in cooperation with said device to be authenticated.

13. A data processing device as set forth in claim 1, wherein:

said key generating means generates individual key data unique to said device to be authenticated on the basis of said first data unique to said device to be authenticated, and

said authenticating means performs first authentication with said device to be authenticated using fixed key data held by said authenticating means and

shared with a plurality of device to be authenticated and performs second authentication with said device to be authenticated using said individual key data generated by said key generating means.

14. A data processing device as set forth in claim 13, wherein said authenticating means performs first processing linked with said fixed key data in cooperation with said device to be authenticated after confirming the legitimacy of said device to be authenticated by said first authentication and performs second processing linked with said individual key data in cooperation with said device to be authenticated after confirming the legitimacy of said device to be authenticated by said second authentication.

15. A data processing device as set forth in claim 13, wherein:

said authenticating means holds original key data linked with said second authentication, and

said key generating means generates said individual key data based on unique data received from said device to be authenticated through said authenticating means and said original key data held by said authenticating means.

16. A data processing device as set forth in claim 15, wherein:

said authenticating means holds identification data of processing to be performed with said device to be authenticated linked with said original key data and provides said key generating means with said original key data linked with said identification data of designated processing, and

said key generating means generates said individual key data based on said original key data received by said authenticating means.

17. A data processing method for authentication by an authenticating means with a device to be authenticated on the basis of key data generated by a key generating means, comprising:

a first step wherein said authenticating means provide first data and second data to said key generating means;

a second step wherein said key generating means generates key data by using only said first data in said first data and said second data obtained at said first step and provides the key data to said authenticating means; and

a third step wherein said authenticating means authenticate with the device to be authenticated on the basis of said key data received at said second step.

18. A data processing method as set forth in claim

17, wherein in said second step, said key generating means generates said key data unique to said device to be authenticated on the basis of data received from said authenticating means in said first step.

19. A data processing method as set forth in claim 17, wherein,

in said second step, said key generating means generates said key data using only said first data entered for said first input parameter of said function module on the basis of a function module having a first input parameter and second input parameter and

in said first step, said authenticating means enters said first data for said first input parameter of said function module of said key generating means and enters said second data for said second input parameter.

20. A data processing method as set forth in claim 17, wherein, in said second step, said key generating means calls up a function module of said authenticating means and further uses unique data unique to said device to be authenticated obtained on the basis of said function module to generate said key data.

21. A data processing method as set forth in claim 17, wherein, in said second step, said key generating means calls up a function module of said key holding means and further uses said master key data obtained from

said function module and held by said key holding means to generate said key data.

22. A data processing method as set forth in claim 21, further comprising a fourth step of updating a key holding program for realizing said key holding means independently from a program for realizing said authenticating means and said key generating means.

23. A program executing a step for providing key data to an authentication program executing a step for authentication with a device to be authenticated on the basis of key data and executed in a data processing device, comprising steps of:

a first step for receiving first data and second data from said authentication program;

a second step for generating said key data by using only said first data in said first data and said second data received at said first step; and

a third step for providing said key data generated by said second step to said authentication program.

24. A program as set forth in claim 23, wherein said second step generates said key data unique to said device to be authenticated on the basis of said first data received at said first step.

25. A program as set forth in claim 23, wherein

said program further comprises a function indicating a step having a first input parameter and a second input parameter and generating said key data using only said first data entered for said first input parameter,

said first step receives said first data and said second data through said first input parameter and said second input parameter of said function, and

said second step generates said key data using only said first data received through said first input parameter of said function.

said second step

26. A program as set forth in claim 23, wherein access rights different from said authentication program are defined.

27. A secure application module for communicating with an IC chip storing service date relating to at least one service, comprising:

an authenticating circuit for authentication with a device to be authenticated on the basis of key data and

a key generating circuit for generating said key data on the basis of the data received from said authenticating circuit and providing the same to said authenticating circuit, wherein

said authenticating circuit provides first data and second data to said key generating circuit, and

said key generating circuit generates said key data by using only said first data in said first data and said second data received from said authenticating circuit.